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A CASE OF HYDATID CYST OF THE BRAIN, INVOLVING THE RIGHT FRONTAL LOBE AND ANTERIOR HORN OF THE LATERAL VENTRICLE.

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HYDATID cysts are not often found in the brain, and it is safe to say are not easily distinguished from other forms of cerebral "tumour" of slow growth; but inasmuch as they are more amenable to treatment by surgical means than any other form of cerebral "tumour," it is a matter of importance to be able to make a differential diagnosis.

Hydatid cysts are for the most part of slow growth, and tend to push on one side and compress the brain tissue. They are certain to give rise to increased intra-cranial pressure, and this increased pressure is likely to render regional diagnosis difficult.

In the following case the position of the cyst was localised during life in the right frontal lobe, but the nature of the "tumour" was only revealed at the post-mortem examination. Unfortunately no exploration was made.

History.—Samuel H—, aged 8¼ years, was admitted into the Manchester Children's Hospital March the 24th, 1903, and died June the 24th, 1903. The mother gave the following history of his illness:—The boy had not been well for some two years and a half, being subject to headaches during this time, and was often "faint" and sick. He attended school till three months ago, but lost a good deal of time through headaches. He was in Standard I. The headaches were always referred to the forehead over the right eye; he moped a good deal and would not play with other boys. After a while the headaches were accompanied by twitching of the right side of the face, but he did not lose consciousness. About three months ago she took him to the Eye Hospital on account of his sight failing (early optic neuritis was diagnosed by Mr. E. Roberts). About this time he began to suffer from "fits." The mother always knew when they were coming on by his crying out with pain in his head; then the right side of his face twitched, followed by clenching of the right hand and giving way of the leg of the same side. He was often unconscious for some hours. His left side was unaffected. Lately he had developed a squint in his right eye, and had been very dull and stupid.

Symptoms.—When admitted into hospital it was noted that he was a well-nourished boy with rather an anxious expression. He walked perfectly well, with no sign of staggering or paresis of the limbs. There was no loss of sensation to be made out. There was exaggerated knee-reflex on the left side, with some ankle-clonus. There was a somewhat vigorous knee-jerk on the right, with no clonus. Flexor plantar reflex present on both sides. He was mostly very quiet, and slow in answering questions, and slow of comprehension. There was external strabismus with dilated pupil on the right side, double optic neuritis with tortuous veins, some thrombosis, and small hæmorrhages.

During the early part of his stay in hospital he had frequent screaming attacks, calling out "Daddy, daddy," followed by periods of unconsciousness; on one or two occasions the right side of the face was convulsed. Later the fits, which occurred at intervals of a week or so, were followed by clonic spasms of the arms and legs, but most marked on the left side. Within a few weeks of his death he passed into a state of almost continuous unconsciousness or drowsiness, and his limbs, especially the left side, became semi-rigid and flexed, though at times they would relax.

Post-mortem (pathological report by Prof. Sheridan Délépine).—Seen from above, the brain looks large for a boy of his age. The

right frontal lobe is larger than the left. The posterior three-fourths of the middle and inferior frontal convolutions (right side) are flattened, and the sulcus between them obliterated. In a region corresponding to the junction of the middle and posterior third of the inferior frontal sulcus, the grey matter has been entirely destroyed, and the transparent walls of the cyst are visible under the meninges over a circular area measuring one inch in diameter. Around this spot the brain substance is reduced to a thin membranous layer. A

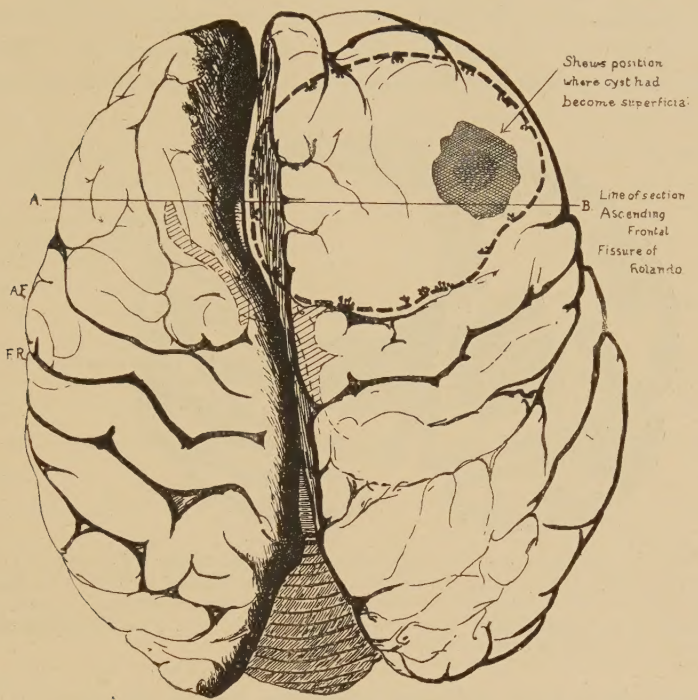

Fig. 1.—Rough sketch indicating relations of cyst to superficial markings of brain, seen from above. Cyst walls, thick broken line. Position of anterior horns of lateral ventricles represented by light shading.

marked bulging of the mesial aspect of the right frontal lobe is visible. This swelling has caused compression of the left frontal lobe for an inch and a half in front of and above the level of the genu of the corpus collosum, and for an equal distance behind that point (see Fig. 1.) The cortex of the right frontal lobe in the region of the frontal bulging is very thin and smooth. The external appearance and the consistency of the parts indicate that the superior frontal convolution, the anterior parts of the middle and

inferior frontal convolutions, and the ascending frontal convolution, although compressed, were not actually destroyed. The lower aspect of the right frontal lobe bulges downwards, and must have compressed the orbital plate of the frontal bone. The orbital sulci are obliterated and the grey matter of the gyra reduced to a membranous layer, through which the outline of the anterior part of the temporo-sphenoidal lobe can be easily recognised. The anterior part of the temporo-sphenoidal lobe, and the olfactory, optic, and ocular nerves, must have been compressed.

On opening the cyst it was found to be due to the presence of a large unilocular hydatid of the tænia ecchinococcus. The cyst measured three inches in its largest diameter, with thick transparent

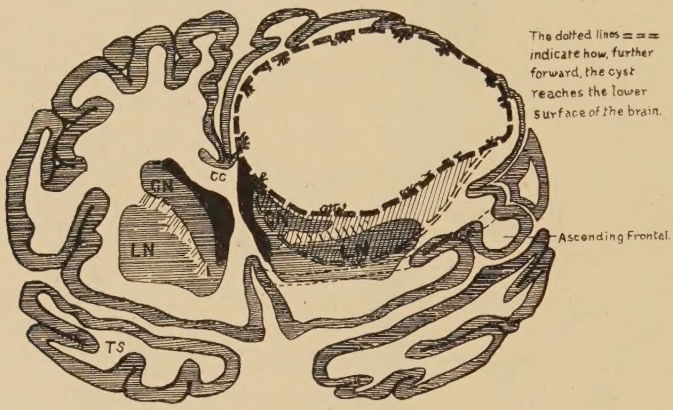
The dotted lines = = = indicate how, further forward, the cyst reaches the lower surface of the brain.
CC
CN
LN
TS
Ascending Frontal.

FIG. 2.—Diagram showing approximately the relations of the hydatid cyst to the parts of the right frontal lobe in vertical planes indicated in Fig. 1 by line A B. C.N. Caudate nucleus with adjacent part of lateral ventricles (black). L.N. Lenticular nucleus, anterior part. T.S. Temporo-sphenoidal lobes. C.C. Corpus callosum a little behind genu.

walls, to which were attached numerous broods of typical scolices, apparently active. A thin fibrous capsule separated it from the surrounding brain substance and from the cavity of the right lateral ventricle ; with the exception of this membrane, the cavity in which the cyst was lodged was continuous with the cavity of the anterior horn of the right lateral ventricle. The basal ganglia of the same side were displaced backwards and downwards, but not destroyed.

Summary.—In this case there were symptoms which suggested cerebral troubles for some two and a half to three years. The early symptoms consisted of headache, vomiting, and "faints," produced probably by the gradual increase in size of the cyst, causing increased intra-cranial pressure. It is curious that the first focal

symptom, with the exception of the local pain, was the twitching of the face on the same side as the lesion, produced apparently by the bulging of the cyst in the direction of the mesial line, and compressing the neighbourhood of the face centre of the opposite side; at the same time much more compression had been exerted from within on the ascending frontal, and middle, and inferior convolutions of the right side, without, as far as can be gathered from the history, giving rise to any regional symptoms. Towards the close of the illness there was first an exaggeration of the reflexes, and then a spastic condition of the left arm and leg, due probably to the compression of the right internal capsule.

A diagnosis of tumour of the right frontal lobe was made during life on the strength of the headache being referred so persistently to the forehead over the right eye; the optic neuritis, with thrombosed veins and hæmorrhages; and the paresis of the third nerve. The eclampsia involving the face, arm, and leg on the same side as the headache suggested compression or irritation of the internal frontal convolution on the opposite side. A hasty assumption that the lesion was a solid tumour too deeply seated for surgical interference is to be regretted, as it was clear that the cyst might have been readily tapped and drained. The case certainly suggests the propriety of at least trephining in all cases of cerebral disease where there are signs of increased intra-cranial pressure and intense optic neuritis.

The case offers no evidence one way or another as to the functions of the frontal lobes. That he was dull and stupid is certain, as well as very neurotic and irritable at times; but headaches and high intra-cranial pressure would readily account for all this. No loss of sensation was detected; unfortunately the boy's sense of smell and taste were not tested. Practically all the time he was under our observation he was either very dull and stupid or else in a morbidly excited state.

I must acknowledge Professor Sheridan Délépine's great kindness in examining and making drawings of the specimen, and also my thanks are due to Dr. McIlraith, our late resident medical officer, for his careful notes of the case.

SOME CASES OF LYMPHANGIOMA.*

By Albert Carless, M.S.Lond., F.R.C.S.,
Professor of Surgery in King's College, London; and Surgeon to King's College Hospital, etc.

It has fallen to my lot to treat a number of these growths during the last few years, and inasmuch as their characters and peculiarities are none too clearly described in text-books, and my cases have ranged over most of the different types assumed by them, it has seemed worth while picking out some of the more characteristic so as to give an idea of the whole subject.

It is a little difficult to draw an exact line of demarcation around growths which should merit this title; between them and the lymphangiectases a somewhat large group exists, of which it is almost impossible to say to which class one should assign the individual members. Theoretically, one looks on a lymphangioma as a tumour built up of *newly formed* lymphatic vessels, whether or not they retain their tubular characters, whilst the lymphangiectases are conditions due to the distension of *pre-existing* lymphatics, and the latter are usually associated with interstitial overgrowth of the tissues involved, constituting in the extremities conditions akin to elephantiasis. The difficulty in particular arises with the unilocular or multilocular cysts, which form the majority of cases known as cystic hygroma; whilst the term lymphangioma is usually applied to these, it is, to my mind, quite an open question whether it is strictly merited.

I propose to lay before you the characters of five cases. Of these, one was purely cutaneous; two involved skin and subcutaneous tissues; three were typically cystic; and the last was a solid growth, but covered by and associated with a marked cutaneous development.

Case 1.—The patient was a child under twelve months of age, of poor physique and badly nourished. It was affected by a patch of lymphangiomatous tissue upon the temple, the size of a shilling or a little more. It presented the typical appearance of what may well be termed a *lymphatic nævus*. The patch was of a brownish-yellow colour; the surface was slightly irregular and papillated, and on examination with a lens one could see that each of the enlarged papules of the skin was the seat of a dilated lymphatic covered with epithelium. There were a few enlarged blood-vessels in the neigh-

* Read before The Society for the Study of Disease in Children, December the 11th, 1903.

bourhood. As the condition was not increasing in size, and as the child's nutrition was peculiarly defective, I advised that it should be carefully watched and not dealt with at the time; any increase would determine active treatment, in the shape either of destruction by the actual cautery or excision.

In the third and fifth of the cases here recorded, a similar condition was present in association with deeper lymphangiomatous manifestations, but was spread over a much more extensive surface. Not infrequently patients scratch and irritate the affected areas, giving rise to a flow of lymph from the surface, and perhaps followed by attacks of inflammation which may lead either to extension or to cure.

This lesion is sometimes associated with a condition in which the lymphatics are distended to such a degree as to constitute vesicles as large as a half pea, but the latter may also occur without the former. These *lymphatic varices* are by no means uncommon, and are best treated by complete extirpation if they be few in number, or by opening them and cauterising the exposed surface. A very good illustration of this "Lymphangioma circumscriptum" appeared in the 'British Medical Journal' on June the 3rd, 1893.

Lymphangiomata of the subcutaneous tissues similarly present themselves under two chief manifestations, viz., the tubular, and the cystic or cavernous. In the former, as in the hæmangiomata, the newly formed vessels remain as capillaries, and constitute soft pulpy or spongy swellings, which can sometimes be reduced in size on pressure. In the cavernous type, cysts of greater or smaller size are found, associated or not with the spongy tissue just mentioned, and filled with lymph, to which a greater or less quantity of recent or old blood is not infrequently added. On the whole, one is inclined to think that the purely cavernous without admixture of spongy tissue is more frequently seen. As an illustration of this, the following case may be noted.

Case 2.—D. M. S—, aged 5 years, was admitted into King's College Hospital on September the 9th last for a cystic swelling situated in the lower part of the right cheek and upper part of the neck. It had only been noticed three months previously, but during the month preceding her admission it had increased in size very considerably. It extended upwards as high as the external auditory meatus, downwards to the level of the thyroid cartilage, backwards to the anterior border of the sterno-mastoid, and forwards nearly as far as the middle line. The swelling was tense and elastic, apparently loculated, and

the skin over it was normal and moved freely; the growth appeared to be more or less attached to deeper structures. The limits of the swelling were quite sharply defined, and it was obviously of a cystic nature. It was operated upon on September the 11th, and on incision proved to be a thin-walled multiloculated cyst, containing serum mixed with blood, which from its colour had been extravasated into it some little time. The various loculi penetrated deeply amongst the structures of the neck, and were in close proximity to the vessels; the lingual and facial arteries projected into the cavity, and were only separated from it by the endothelial lining. One loculus ran up under cover of the mandible into the pterygoid region. It was impossible to dissect out in its entirety the whole of the lining wall, and hence those portions which could not be thus dissected away were well scraped by a sharp spoon. The wound was closed by a continuous suture and healed by first intention.

I look on this growth as a pure cystic lymphangioma, though why it appeared in this situation, and why it developed so suddenly and rapidly, it is impossible to say. Its definite limitation rendered it very suitable for treatment by operative measures. Not a few growths ordinarily termed cystic hygroma are of this type; they are perhaps more frequently composed of a congeries of smaller cysts than of a single one, but they are frequently quite amenable to operative treatment. It is by no means unusual to see a hæmangiomatous element also present, and this association may explain why the fluid contained in them is stained or mixed with blood. In one instance which I saw years back under the care of Lord Lister, it was possible to reduce the size of the mass by pressure to a considerable extent, and as soon as the compressing force was removed the tumour swelled up to its former dimensions.

Quite distinct in their features from this, although still cavernous lymphangiomata, are the two next cases.

Case 3.—H. G—, a boy aged 6 years, came under my care at St. John's Hospital, Twickenham, about two years ago. He was the subject of a large cystic swelling on the left side of the posterior thoracic, and abdominal walls. This had existed from birth, but had increased in size rapidly during the previous few months. The mass extended from the mammary line in front nearly to the middle line behind; from above downwards it was about 4 inches in diameter, and projected outwards to such an extent that it resembled in size a large cocoa-nut. Several cysts could be detected, but the main central one was of considerable dimensions. The skin covering

the mass was adherent to it, and in part the seat of a cutaneous lymphangioma resembling that described in Case 1. The growth appeared to be more or less fixed to the thoracic parietes. I dealt with it in two operations. In the first the incision was a straight one placed across the centre of the mass, and extending from an inch and a half external to the left nipple obliquely downwards and backwards nearly to the middle line behind just above the top of the sacrum. The main cyst was thereby opened and found to contain serous fluid. Many other cysts were present, but in addition to this was a considerable quantity of a soft spongy tissue which oozed lymph when cut into, and was much of the same character as the soft spongy hæmangiomatous tissue found in ordinary nævi. This, together with the lining wall of the main cyst and the greater portion of the affected skin, was dissected away; but it was found that the soft nævoid tissue extended into and had infiltrated the superficial muscles covering the thorax and abdomen, and it was necessary to encroach on these to a considerable extent in order to get clear of the growth. There was a good deal of bleeding in this procedure, and therefore it was thought wise not to attempt the total extirpation of the outlying portions of the mass towards the middle line. The patient recovered from this operation perfectly well, and some time later a second operation was undertaken in order to remove the remains of the tumour, which had once again started growing. This time one made a curved incision extending from the upper end of the scar to nearly the lower, and reaching back as far as the middle line. This large flap was dissected up, and all the remaining portions of the growth were removed. The wound healed by first intention. I saw the patient a few weeks back, *i. e.* eighteen months after the second operation, and found that the condition was perfectly satisfactory; there was no sign of any recurrence, and the skin only in one spot showed evidence of the preceding lymphangiomatous condition which had involved it.

Case 4 was a less satisfactory one of a similar type, in which, however, a fatal issue ensued in spite of extensive operative interference.

Mary E—, aged 3 days, was admitted into King's College Hospital under Mr. Rose on March the 3rd, 1902, with a large cystic swelling beneath the left side of the jaw, extending from the symphysis menti to the mastoid process. The skin was not adherent over the mass, and several distinct cysts could be made out. The growth increased rapidly in size, several of the cysts appearing to

merge into one another under observation, and the mass soon began to project further backwards behind the sterno-mastoid. On March the 10th Mr. Rose operated, making an incision more or less parallel with the ramus of the jaw over the more prominent cysts. The skin was separated from them, and the cysts opened. They contained yellow serous fluid and a substance of jelly-like structure, probably due to coagulation of the lymph *in situ*. The greater part of the mass was removed, and its pedicle ligatured. The wound was closed and the child did well, but the notes state that on March the 20th, before the child was discharged, the swelling under the chin was again commencing to enlarge. The fluid contained in the cysts is reported by Dr. Grünbaum to contain 0·4 per cent. of albumen. The wall of the cysts was composed of connective tissue, in parts undergoing myxomatous degeneration; the cyst cavity was not lined by epithelium. The solid material in the cysts was said to be organising fibrin.

The child was admitted a second time under my care a few months later. The growth had then attained considerable dimensions, extending under the chin as a projecting rounded mass, and also occupying both triangles of the neck. The child's nutrition had by this time begun to suffer, and although operation was essential, one was a little afraid as to what the result would be. A large incision was made, extending the whole length of the lateral aspect of the neck, and it was early seen that the sterno-mastoid was extensively invaded by the growth, and that a removal of its whole thickness in a portion of its extent was required—in fact, there were very few muscles-fibres left towards the centre. The growth had also attacked the parotid gland, and its removal from this region necessitated the division of a portion of the facial nerve. In spite of the very extensive dissection, it was impossible to remove the whole mass, especially under the chin. When the operation was finished, the whole of the deeper structures of the neck were laid bare, and one had to place the skin-flap down on the internal jugular vein with no other structure intervening. In spite of all things, the wound healed satisfactorily, and the child was sent out of hospital; but, unfortunately, the side of the face remained partially paralysed.

The ultimate result was that the tumour grew once again, burst through the skin and became infected. The child was admitted to hospital for a third time on January the 10th this year, and died of septic absorption.

The most important feature in each of these two cases is the tendency obviously existent in them to infiltrate surrounding struc-

tures. The sterno-mastoid in one case, and the superficial abdominal muscles in the other had been invaded, and their tissues infiltrated and destroyed; the parotid gland in Case 4 had also been attacked. In the former case the parts involved were of less importance, and therefore could be freely dissected away; but when the deeper tissues of the neck are affected, serious results may follow, and life itself may be destroyed. This tendency to invade and infiltrate has been noticed by other observers, and must ever be kept in mind in advising as to treatment. The tissue is plainly of a lowly organisation, and it is quite an open question whether there is not some added sarcomatous element present. A similar instability of the hæmangiomata has also been noticed.

Mr. Betham Robinson related a case somewhat similar in which the parotid region was invaded by a growth of this nature, though there it was simply cystic and not of the spongy type. An operation was undertaken, but only a portion could be removed. The growth recurred, and the child subsequently died of asthenia ('Path. Soc. Trans.,' 1896). Mr. Spencer has also reported to the Medical Society a case of diffuse lymphangioma of the lower extremity, and has referred to some others of a similar type; but they do not seem quite to fall into line with cases such as I have referred to, and are more like diffuse lymphangiectases ('Med. Soc. Trans.,' 1892, p. 133). Zuccaro ('Puglia Medica,' 1894, Nos. 8 and 9) also relates a case of diffuse cystic disease of this type in the upper arm and thorax of a child seventeen days old, where the connective tissue was riddled with cysts, and gives a careful account of the histology. Complete removal was impossible, and death occurred as the result of septic processes starting in the wound, which could not be completely closed. Vautrin ('Revue de Chirurgie,' 1898, p. 1128) relates a case of mesenteric lymphangioma which he discovered post mortem. The growth had invaded the muscular tunics of the stomach, and was surrounded by agglutinated coils of intestine. He emphasises the gravity of this invasion, and looks on it as analogous to that of a malignant tumour.

Operations for partial removal must therefore always be avoided, if possible, but there are not a few cases on record in which a good result was subsequently obtained. D'Arcy Power ('Brit. Med. Journ.,' December the 4th, 1897) relates one in which spontaneous disappearance of the mass occurred subsequently, owing to an attack of inflammation in the part left behind; but, as one has indicated by the cases referred to above, this inflammation may not always lead to a satisfactory issue.

The last case I have to describe was an interesting one in which there was a solid fatty growth on the anterior thoracic wall, adherent to the skin which covered it in, and this in turn was invaded for a good portion of its extent by a cutaneous lymphangiomatous development, similar in characters to that which I alluded to in my first case.

The child, M. S—, was 11 years of age, and the growth had been noticed since she was two years old. It increased gradually in size, but gave no inconvenience till about two and a half years previously, when she was operated on by Mr. Stanley Boyd at Charing Cross Hospital. The mother stated that there was no sign of the mass after this procedure, but that it commenced to grow again shortly afterwards. On her admission to King's College Hospital in August, 1901, the swelling extended vertically from the second to the fifth rib inclusive, and from half an inch to the right of the middle line to well into the left axilla. It projected forwards two or three inches, constituting a tumour rather larger than a fist; and towards its lower part could be seen the rudimentary breast, which was quite independent of it. In consistence it was soft, slightly lobulated and irregular; freely movable on the deeper parts, but the skin was adherent over it. Enlarged veins coursed over the mass, and the scar of the former operation ran transversely across its lower border. The skin over the greater part of it, and especially towards the axilla, was slightly warty and papillated, resembling in colour and appearance the lymphangiomatous developments already described. No enlarged glands were to be felt in the axilla, and the growth was quite painless.

The whole mass was subsequently excised, and as it encroached somewhat closely upon the pectoral muscle, which looked decidedly infiltrated, it was thought better to remove the sternal portion of that muscle, and to carry the incision well into the axilla, from which a somewhat enlarged gland was removed.

The exact nature of this case is certainly open to discussion. The microscopic report as to the cutaneous condition merely stated that it was a papillomatous nævus; but looking to the appearance of the lesion before removal, the total absence of any evidence of circulating blood, and the entire accordance of its characters with those of demonstrated lymphatic nævi, one is forced to the conclusion that it must be placed in that group.

As to the main mass, the report stated that it was merely fat, and that no lymphatic or hæmangiomatous developments were present; it was, however, a large mass, and it is possible that the portion that

might have demonstrated its dependence on a lymphangiomatous origin was not examined. That fibro-fatty growths are associated with lymphangiomatous developments cannot be doubted. Mr. Marmaduke Sheild showed a child to the Medical Society in 1893 ('Med. Soc. Trans.,' vol. xvi, p. 350) who was the subject of what he supposed to be a congenital fibro-fatty growth. In the next year's 'Transactions' (p. 334) the sequel of this case is related. An acute attack of inflammation supervened in the growth, which became enormously enlarged, hot, red, and œdematous, and in spite of careful nursing the child died. Post mortem it was found that the greater part of the growth consisted of solid fibro-fatty tissue, but that towards the axilla it merged into a sponge-like growth, and finally into distinct cysts, the size of peas or grapes, filled with yellow serous fluid. Spontaneous inflammation had occurred, and the child had been unable to withstand the inflammatory fever and exhaustion. I look on my case as akin to this, but that the transformation into a cavernous type of lymphangioma had not been reached. In such developments one sees an analogy to the lipomatous conditions which are sometimes found associated with the hæmangiomata.

REMARKS UPON "ETHYL CHLORIDE" AS A GENERAL ANÆSTHETIC.*

By J. Henry Chaldecott,

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It is comparatively seldom that innovations of any importance occur in the province of anæsthetics, at any rate so far as the introduction of new anæsthetic agents is concerned. Occasionally a new mixture or substance makes its appearance, but after a short trial is discarded, having failed to hold its own with its older rivals, nitrous oxide, ether, and chloroform.

It seemed at one time as if ethyl chloride would, in this country at any rate, have met with a similar fate, but chiefly owing to the perseverance of Dr. MacCardie, of Birmingham, its claims began to be recognised, and I venture to think that before very long it will be generally used for operations of a certain kind.

* Read before The Society for the Study of Disease in Children, October the 16th, 1903.

My own experience of its use dates from about two years ago, when I gave it an extensive trial for operations upon the throat and nose. I was at that time administering it from a Brener's inhaler, but I found it so unreliable, and the induction of anæsthesia in many cases so tedious, that for a time I discarded the drug entirely. I subsequently, however, ascertained that Dr. MacCardie, who had just published a long list of successful cases, administered it from an Ormsby's ether inhaler, and since adopting this method, I have had nothing but unqualified success with it, and have come to regard it as an almost ideal anæsthetic for suitable cases.

There are three methods of using ethyl chloride to which I should like to call attention.

No. 1 consists of cases in which a single dose only is given, and anæsthesia having been induced, the mask is removed, and the operation performed. This class of case includes all short operations upon the nose and mouth, such as tonsillotomy and the removal of adenoids, and as a very large percentage of these cases are children, this branch of the subject is of special interest to us as members of this Society. As you are probably aware, there has for some years been a wide difference of opinion as to the proper anæsthetic to employ for this operation, one school maintaining that chloroform is the only suitable agent, and refusing to be reconciled to the use of nitrous oxide, or to the mixture of nitrous oxide and ether, on the ground that they do not give a satisfactory type of anæsthesia, and that by exciting cyanosis and secretion of mucus they embarrass the operator. The "gas and ether" school, on their side, draw attention to the enormous mortality which seems to be inseparable from the use of chloroform in these cases, and contend that it is unjustifiable to subject patients to such a risk for an operation which in itself entails no danger to life.

Now, although I belong to the latter party, I am quite prepared to admit that, especially in the case of children, nitrous oxide or nitrous oxide and ether anæsthesia is by no means always ideal, and I am in consequence doubly glad to welcome the substitution of ethyl chloride on the ground that it strikes the happy medium by combining the respective good points of chloroform, nitrous oxide, and ether, without any of their attendant disadvantages; it produces, in fact, a type of anæsthesia as quiet and as free from asphyxial symptoms as the best form of chloroform narcosis, and at the same time is as rapid as nitrous oxide and as stimulating as ether.

Its points of superiority over chloroform in these cases are:—(1) It can be given with the patient in any position; (2) anæsthesia

can be induced very much more rapidly than would be possible, or at any rate safe, with chloroform; (3) there is no struggling; (4) a measured dose can be given; (5) it is probably much safer; (6) the after-effects are quite trifling, or absent altogether.

Its advantages over nitrous oxide are:—(1) The anæsthesia is of a better type in that it is quieter, there being a complete absence of suffocative symptoms, such as opisthotonos and jactitation; (2) no cumbrous apparatus is necessary; (3) the available anæsthesia is about twice as long.

Its advantages over ether are:—(1) It is much pleasanter to take; (2) induction of complete anæsthesia is much quicker, and is unattended by struggling; (3) there is no cyanosis or secretion of mucus; (4) it does not leave an unpleasant taste in the mouth or smell in the room; (5) the after-effects are generally much less.

In administering ethyl chloride for these or for other short operations upon the mouth, such as dental extractions, the length of available anæsthesia can be estimated with tolerable accuracy by the dose given, and one can consequently arrange matters according to the pace which may be expected of the particular operator—but in this connection my experience leads me to utter a word of warning, viz. that if for the removal of tonsils and adenoids it is thought necessary to push the drug so as to obtain an anæsthesia of more than forty seconds, it is safer to have the child lying down, and the fauces well sponged out as the bleeding occurs. When nitrous oxide, either by itself or combined with ether is used, this is rarely necessary, as the swallowing reflex remains fairly active, but with ethyl chloride it disappears more suddenly and returns much more slowly, and unless care is taken blood may find its way into the air passage.

2. The second method of administration is for short cases, which, from the position of the part operated upon, do not necessitate the removal of the mask, and this class includes practically all short minor operations.

It is difficult just yet to speak with absolute certainty as to how ethyl chloride compares in point of safety with the other anæsthetics, but it certainly appears to be safer than chloroform; and if further experience does not disillusionise us upon this point, it might well supersede chloroform in all minor operations. It is notorious how many of the chloroform fatalities occur during minor operations, and one can imagine nothing more distressing than for a child to lose its life for the sake of undergoing some slight surgical procedure, which *per se* carries no risk.

I have myself given ethyl chloride for opening abscesses, removing foreign bodies from noses and ears, tenotomy, circumcision (one case was a child of fourteen days old), rectal and abdominal examinations, amputation of finger, and osteotomy (tibia), and have never yet met with any alarming symptoms. Used in this way for short surgical emergencies, ethyl chloride should prove a great boon to the general practitioner, who has perhaps on the spur of the moment to deal singlehanded with a fractious and struggling child. Two cubic centimetres sprayed on to the sponge, and the mask held tightly on the face, will in a few seconds produce a sufficient anæsthesia for the opening of an abscess, or for an examination of an injured joint or limb. In the necessarily hurried work of the casualty departments of hospitals, ethyl chloride is immensely useful.

The after-effects in these cases are of course more marked than in "single dose" cases, but unless the patient's stomach is full of food, there is rarely severe vomiting.

3. The third method of administration consists of inducing anæsthesia by means of ethyl chloride, and continuing it with ether or chloroform according to the requirements of the case, and for this purpose the drug is very useful on account of the rapidity of induction and the absence of early cyanosis and struggling.

A mixture known as "Somnoform," of which ethyl chloride is the principal ingredient, has lately been extensively used. It has not, however, any single advantage over the simple drug, and compares unfavourably with it in smelling nasty and leaving an unpleasant garlicky taste in the mouth; nor is there, so far as I can see, any advantage in using a mixture of drugs when a single one answers the purpose equally well, if not better.

The actual administration of ethyl chloride is very easy when an Ormsby's inhaler is used, and I believe this is the best and simplest form of apparatus. The only slight modification which I have had added to the ordinary "Ormsby" is to have the mask rather deeper than usual, so that the sponge may not be too near to the patient's nose. With this mask I never meet with any coughing or struggling, and most of my patients tell me afterwards that the inhalation was by no means unpleasant.

In the case of a child two to three c.c. of the drug are sprayed on to the sponge, the mask is applied tightly to the face, and one breath allowed with the air-slot open, the slot is then closed, and no further air admitted until anæsthesia is complete; snoring usually ensues within twenty seconds, and a few seconds later the patient will be perfectly anæsthetic, with flaccid limbs and insensitive

corneæ. The mask can now be removed and the operation performed.

If the operation is one which does not necessitate the removal of the mask, it can be commenced after two or three snoring respirations, and if it is wished to continue the anæsthesia with ethyl chloride, more of the drug must be sprayed on the sponge from time to time as required. In these cases it is as well to have a second sponge at hand, to replace the first when it gets frozen. I always use Duncan and Flockhart's pure ethyl chloride.

I have now administered ethyl chloride over five hundred times, and the conclusions I have arrived at are:—(1) It is the best anæsthetic known for what may be called "single dose" cases, when the patient is anæsthetised, the mask removed, and the operation performed without any further administration; (2) it is certainly worthy of an extensive trial in all minor operations; (3) it is a safe and rapid means of inducing anæsthesia as a preliminary to chloroform or ether narcosis; (4) although its effects are transient it is doubtless a powerful anæsthetic, and should be carefully administered, and the patients properly prepared.

ENEURESIS IN CHILDREN.

By Percy Lewis, M.D.,
Honorary Medical Officer, Victoria Hospital, Folkestone.

The variety of causes to which this condition has been attributed, and the very diverse treatments which have been recommended for its cure, suggest that its pathology has not been accurately studied.

The subjects of the complaint are mostly unhealthy in aspect, being either anæmic, bilious-looking, or lymphatic. Their skins are dull and inclined to acne or some of the low forms of eczema. They generally are not fond of meat, eat irregularly, and live mostly on farinaceous and saccharine foods. They are disinclined for exertion or school work. If these children are subjected to the usual routine of being taken up frequently during the night to pass water, they are found overcome with sleep and very difficult to rouse. They seem in a kind of stupor, into which they at once relapse on being put back to bed. At each time on being taken up they pass a large

quantity of urine. Yet a short time later they are found asleep, and the bed "deluged" with water. If the urine be measured it will be observed that there is seldom less than two pints passed in the night, and that this is sometimes nearly or quite doubled. On analysis the urine is found to have a very low specific gravity (1002—1005 is not unusual), neutral or alkaline reaction, and with a deposit of triple phosphates or oxalates. Very frequently a trace of albumen is present. The condition then at night is one of polyuria. The urine tends to become normal in the daytime, except in cases where the incontinence is continued during the day. The large quantity passed and the way in which the bed is "deluged" show that the bladder is not emptied until it is full. The unirritating urine does not give a sufficient "call" to the central nervous system to awaken the patient, but enough to start the necessary reflex for emptying the bladder only.

The treatment of this complaint, which has for some years been successfully carried out by the writer, was suggested by the consideration of a similar condition which occurs in infants fed on starchy foods. Such children always pass a larger amount of urine than normal. Their nurses complain that they are always soaking their diapers. When their starchy food is cut off this symptom disappears. It is the same with the victims of eneurēsis. In most cases a rigid anti-diabetic diet removes the symptom in a few days. The *cause*, however, due to a general depression of health produced by an excessive starchy diet, requires general tonic treatment at the same time. During the cure starchy food may usually be allowed for breakfast without "accidents" occurring at night. Without any other treatment hospital cases are relieved often at once, and finally cured, by being taken as in-patients and fed on the ordinary hospital diet. In private cases even small quantities of bread or cake, given at dinner or tea early in the treatment, cause the bed-wettings to recur. In about three to four weeks, sometimes sooner if the tonic treatment is pushed as well, a normal diet may be given without eneuresis happening.

Whilst not wishing to contend that eneuresis is a condition of late rickets, the writer is of opinion that it is a weak bodily condition caused by an excessive starchy diet, and associated with inability to properly digest that excess.

CONGENITAL CYST IN THE NECK IN AN INFANT.

By Lewis Marshall, M.D.
Surgeon to the Children's Hospital, Nottingham.

W. H.—, when two days old, was admitted into the Children's Hospital, Nottingham, on December the 3rd, 1903, with a large cyst which occupied the posterior triangle of the neck on the right side. In size it might be compared to a small cocoa-nut. The infant was feeble and poorly nourished. It showed no other symptoms. It died the same evening. The labour was natural.

Autopsy.—The swelling in the neck was an unilocular cyst, with a thin vascular wall. It was situated behind the sterno-mastoid on the right side, and reached down to the first rib. It was lightly attached to the skin and carotid sheath, but it was closely adherent to the deep muscles. It was quite subcutaneous, and had no connection with the spinal meninges.

Remarks.—I am indebted to the house-surgeon, Mr. Duncan, for the above notes. This case is worthy of notice because of the size and position of the cyst. Although lymphatic cysts are not uncommon in the anterior triangle of the neck, I have never met with one, before this case, in the posterior triangle. The large size of the cyst is also unusual.

ADMINISTRATIVE NOTES ON CHILDREN'S HOSPITALS.

By T. Glenton-Kerr,
Secretary of the North-Eastern Hospital for Children, Hackney Road, Bethnal Green, E.

Last month I was so bold as to promise for the next number something in the nature of a solution of the difficult and intricate

problem of how best to remove the feelings of hostility existing between the hospitals and the medical men practising in their vicinity. Now nemesis has met me, and the confidence with which I penned the last paragraph of the January notes has to a large extent departed. My schemes of reform, when viewed from the distance of a whole month, presented a most impressive appearance, but now I come to handle them much crudeness and much unfinished workmanship are painfully manifest, and I would fain disarm criticism by these few self-depreciatory words, expressive of the becoming humility with which my ideas are put forward and of my readiness to submit myself to the better judgment of my readers.

Generally speaking I think the hospitals are chiefly to blame for the present undesirable state of affairs, and that the initial obstacles to be overcome are the difficulty of getting the hospital authorities to recognise this fact and to see the advisability of taking action.

From the nature of the case it would not be reasonable to expect that any movement in the direction desired would be likely to originate in the lay committees, and I would therefore endeavour to bring home to medical men who are on the hospital staffs the responsibility which rests upon them in the matter. They can do much themselves quite apart from the governing bodies, and their influence would be sufficient in every case to bring about any reasonable regulations which they could unanimously agree upon.

The first step to be taken should, I think, be in the direction of instilling into the resident medical men the necessity for a more punctilious regard for the ethics of medical etiquette in all dealings, indirect or direct, with the general practitioners whose former patients may come under their hands. They should further be asked to take particular care to show the utmost possible consideration for any of their professional brethren with whom they may be thus brought into communication, and should be encouraged to remember that they themselves will (in most cases) be in general practice at some future time. This is of course a matter that depends almost entirely upon their chiefs on the staffs.

Having secured the goodwill of the residents, I would introduce a system of inviting practitioners to consult with the staff in cases where a patient admitted to the wards was found to have been under previous private treatment. It might also be desirable to make a similar arrangement as regards out-patients, but this would be more difficult, and I suggest the idea as applicable to in-patients only for the present. A large number of the cases admitted would be found to have been removed from the professional care of the local practi-

tioners and brought to the hospital for one reason or another by the parents, who do not generally take the trouble to consult their medical advisers on the subject. This is naturally galling to the professional man, but if he were to receive an invitation to visit the hospital for the purpose of consulting with the hospital physician or surgeon in regard to the case, he would be at once placed in a better position in the eyes of all his patients, and would feel that the hospital was doing its best to treat him fairly. He might not always be able to afford the necessary time for such a visit, as of course there would be no payment attached, but the fact of the opportunity being offered is the all-important point, and whether the invitation were accepted or not would be immaterial.

The next step to be taken should, I think, be a thorough overhauling (by the committees) of the systems in vogue in the out-patient departments in regard to prevention of abuses. It would be necessary that this investigation should be undertaken in a different spirit to that in which previous inquisitions have been made. Small sub-committees should be formed in each case, and two or three representative medical men of the vicinity should be invited to discuss the matter with them. Such discussions would tend to greatly broaden the views of both parties, and, if it had no other result, would at least promote feelings of mutual respect and goodwill, which at present are sadly lacking.

Thirdly, the hospitals should endeavour to get into close touch with the practitioners by every possible means.

A perpetual series of lectures and demonstrations by the members of the visiting staff, open free to all qualified men, should be established at every children's hospital.

The case-papers of all interesting cases should be published by each hospital at regular intervals in pamphlet form, and should be sent free of charge to all medical men practising within a certain distance of the hospital.

The inherent expenses should be borne by the members of the visiting staffs, in view of the material benefits that should accrue to them through the kindling of a feeling of goodfellowship between the hospitals and the practitioners.

These measures on the part of the children's hospitals should greatly mollify even the most militant of general practitioners, and would, I believe, gradually reduce to a minimum the hostility that is now extant. I would appeal to the extremist to carefully reconsider his position in the matter. He should remember that the hospitals are public institutions "broad-based upon the people's will," and

must therefore be governed, broadly speaking, in accordance with public opinion. His idea that a patient should not be seen unless armed with a recommendation from himself would never be tolerated by those who "pay the piper," even it were to be entertained by those who, for the time being, are charged with the duty of "calling the tune." He should therefore abandon such chimerical notions once for all, frankly recognising the good work of the hospitals and deciding to meet them half-way should they come forward with the olive branch in some such manner as that I have indicated.

Here I shall leave the subject for the present, hoping that some of the seeds of suggestion thus scattered may fall upon good ground and bring forth fruit a hundredfold, but (shade of Tennyson, forgive me !),

> "If these brief notes, of experience born,
> Were taken to be such as closed
> Grave doubts and answers here proposed,
> Then these were such as men might scorn ! "

The Society for the Study of Disease in Children.

A MEETING of this Society was held on December the 11th, at 11, Chandos Street, Cavendish Square, W. Mr. Sydney Stephenson in the chair.

An Abdominal Case for Diagnosis was shown by Dr. A. MORISON. The patient was a boy of nine, who had suffered from an attack of nephritis, accompanied by general œdema, albuminuria, and tube casts. After recovery he was sent to a convalescent home, and there a lump was discovered in the left side of the abdomen, situated low down. The boy said he had been conscious of something movable there for six months. Dr. Morison found a mass in the left iliac fossa which was fixed, and a part above which was movable. He believed the movable portion of the tumour was a floating kidney, which might possibly have become twisted so as to develop the renal symptoms above described.

Dr. CAUTLEY thought that the lump was more or less fixed, that

the attack of nephritis was probably unconnected with it, and that the mass was possibly tuberculous.

Dr. Percy Lewis (Folkestone) recalled a similar tumour which led to intestinal obstruction and proved to be a dermoid cyst.

Dr. Guthrie thought there was a movable kidney on the left side, and that the swelling below was probably tuberculous.

A Case of Exophthalmic Goitre in a girl aged 12 years was shown by Mr. Arnold Lawson. The physical signs were all well marked. The chief interest of the case lay in the extreme youth of the patient, very few cases of Graves' disease at such an early age having been recorded. No cause could be assigned for the onset of the disease, the child's health had been excellent previously, and there was no family history of insanity or nervous disease. The constitutional effect of the illness on the child was very slight, although the disease had been in progress for over twelve months.

Dr. Robert Hutchison referred to a case he had seen in a child of eight years, and asked if there was any affection of the pelvic organs, and if early menstruation had occurred. The association of pelvic disorder in women with Graves' disease was a subject well worthy of study.

Dr. A. E. Sansom referred to the case of a child of twelve who had developed this affection after an attack of influenza.

In reply, Mr. Lawson said he had not examined the pelvic organs, but the menses had not commenced. There was no definite neurotic element about the child.

A Case of Mediastinitis in a boy of seven years was shown by Dr. E. P. Baumann. Last July he suffered from acute rheumatism, complicated by endocarditis and pericarditis. In September puffiness of the face and ascites developed. There was found to be a large liver and an enlarged heart. The abdomen had been tapped several times, but the evacuation of the fluid made no difference in the venous dilation of the neck. Examination by the X rays threw no further light on the case. In view of the history and the clinical symptoms a diagnosis of adhesive mediastinitis had been made. The boy's general health was good.

A Tumour at the Root of the Tongue was shown by Dr. George Carpenter in a girl, aged 15 years, which was accidentally discovered. The mass was probably a dermoid in connection with the thyro-glossal duct. The thyroid gland could not be felt in the neck, and the possibility of the lingual swelling being a misplaced

thyroid was suggested, but that did not negative the absence of the gland in its proper situation, for it was well known that it might be non-palpable during life, and yet be found to be present at a post-mortem examination.

Mr. Francis Jaffrey thought the swelling occupied the site of the thyro-lingual duct.

Dr. Frank Collie (Balham) said he had known the patient for four years, and until one and a half years ago there was no question of any swelling. At the latter time she began to menstruate, and two months later a prominence developed in the region of the chin, which might have been due to the effort to get a free passage of air. Two well-known specialists in throat diseases had seen the case, and agreed that it was probably a case of displacement of the thyroid gland on to the dorsum of the tongue. As the child suffered no inconvenience, he advised that it should be left alone.

A Case of Congenital Heart Disease was also shown by Dr. Carpenter.

A Case of Cirrhosis of the Lung in a girl of six years, shown by Dr. Carpenter, was of three years' duration. There was neither pulmonary osteo-arthropathy nor cardiac hypertrophy. There was no evidence of dilated bronchial tubes.

A Boy with Double Pes Cavus, aged 12 years, was shown by Dr. Leonard Guthrie. Seven years previously he had suffered from a severe attack of polyneuritis of uncertain origin. At the end of three months he had completely recovered, save that the knee-jerks were absent and there was a tendency to contraction of the tendo Achillis on both sides. He had been admitted into hospital during the present year, suffering from a well-marked condition of talipes equino-varus, for which tenotomy had been performed, with improvement of walking powers. At present he showed a condition of pes cavus on both sides, strongly resembling that of Friedreich's disease, but without ataxy, the knee-jerks were absent, the muscles of all the extremities were small, but there was no paralysis. He was somewhat deficient mentally. After excluding other possible causes of the condition, such as spastic paraplegia, Friedreich's disease, polio-myelitis, and myopathy, Dr. Guthrie concluded that the case illustrated the after-effects of polyneuritis.

Dr. James Taylor agreed with the diagnosis, and suggested that there had been six years ago some general toxic condition. This had not only affected the peripheral nerves, but also the anterior

horns of the cord and the highest cerebral centres. This had caused the impaired mental condition which was now present.

Dr. Fletcher Beach thought that there was defective moral control, probably the result of the early illness.

A Girl with Heart Disease, aged 11 years, was also shown by Dr. Guthrie, who regarded the physical signs as those of aortic valvular disease, with stenosis. The maximum of the intensity of the murmur was in the second left intercostal space.

Dr. Theodore Fisher (Bristol) said that disease of the aortic valves, either congenital or acquired, was not so rare as was usually supposed. A variety of lesions affecting the aortic valves was found on post-mortem examination.

Various diagnoses as to the cardiac condition were given by members, including mitral disease, aortic regurgitation with presystolic thrill and murmur (Flint's murmur), pulmonary valvular disease, and patent ductus arteriosus.

A Dermoid Cyst, removed by Mr. J. W. Thomson Walker, from the front of the sternum in a girl of five years, was shown to the meeting. Since infancy a small round swelling had been observed, which had increased to the size of a large horse chestnut. It was easily dissected out. On microscopic examination hair-follicles, sebaceous glands, and sweat-glands were easily recognised.

A Specimen of Tuberculous Caries of the Upper Dorsal Spine, with an abscess pressing on the bifurcation of the trachea, was shown by Mr. Douglas Drew. The patient was a child, aged 5 years, who, while under treatment for spinal disease, developed some difficulty in breathing, which at times became rather urgent. One of these seizures proved fatal from asphyxia. The upper dorsal vertebræ were found to be extensively diseased, and there was a large thick-walled abscess pressing on the trachea and bronchi.

A Specimen of a Cystic Lung, removed from an infant five months old, was shown by Dr. George Carpenter. The lower lobe of the left lung was cystic, the largest cyst being the size of a small orange. It was probably of congenital origin, and akin to the cysts found in the kidneys and spleen. During life the prominent feature was dextrocardia.

Cases of Lymphangioma were recorded in a paper read by Mr. Albert Carless,* which was discussed by Mr. Douglas Drew and Mr. Thomson Walker.

* This paper appears in full in the present issue.

Editorials.

THE MILK SUPPLIED TO INFANTS.

That the present health and future well-being of the infant is mainly a question of food hardly admits of discussion, and that the sources from which the modern infants derive their nourishment are in need of inquiry and radical alteration is well known, or should be, to those whose duty it is to make periodical inspections of milch cows and their environment. The treatment of cow's milk by sterilization and pasteurization to counteract faulty methods of collection and disposal are manipulations that detract from the value of the milk as an infant food, and place it in such a subsequent position as to render it more prone to putrefactive changes, the development of toxins, and the production of gastro-intestinal disturbance in the nursling. As to the means which should be adopted for the appropriate treatment of cow's milk so as to render it more adaptable to the infantile needs, a variety of opinions would doubtless be expressed by the specialist.

There should, however, be unanimity upon one aspect of the case, and that is as to the extreme importance of insisting upon the purity of the commodity. As to the necessity for preserving the health and peace of mind of the animals supplying the milk, the provision of proper stabling, grooming, bedding, and a suitable food supply; the importance of personal cleanliness of those tending and milking the animals; and the extreme value of cleanliness in the storage of milk, the care of the utensils used in the collection and distribution of the fluid, on all these questions there would not be a dissentient voice amongst medical experts in sanitary matters. It is the performance of these elementary principles of hygiene and cleanliness which make for success in the hand rearing of infants, and which are so manifestly lacking in the milk trade.

The animals are often overcrowded in ill-ventilated dingy stalls, whose sole supply of fresh air and sunlight is dependent upon half-opened doors, which are more often kept tightly shut than opened,

especially during the winter months. Warmth is necessary to the production of a plentiful supply of milk, a cold spell diminishes the quantity. This is well known to the dairy farmer, and the necessary warmth is obtained at the cost of ventilation and by stewing the animals in a foul atmosphere. The effects of such unhealthy conditions on the cattle is obvious. One large dairy farmer informed us that he used to test his cows with tuberculin, and over 30 per cent. of them reacted to the test, but he had to discontinue the practice because his customers would not pay the small extra cost entailed. Tuberculous milk is possibly, therefore, being supplied to this wealthy and populous district at the present time because the necessary funds are not voluntarily forthcoming to meet the expense.

Grooming of the bodies of the cattle, and the toilette of their udders is almost unknown. "Cows," we have been told when drawing attention to the manure-begrimed state in which they were kept, "are such filthy animals;" that being a sufficient excuse to keep them dirty, possibly as an illustration of the old proverb, "the clartier the warmer." It is the custom amongst milkers to milk "wet" and not "dry," because it is easier. The hands of the milker are usually in such a filthy state that a starving man would think twice before accepting food from them, and yet their hands are practically laved in every ounce of milk that flows from the cow's udders to the babies' bottles. Disregard for cleanliness is also displayed in the care of the apparatus and utensils, but perhaps not quite to the same extent as in other departments.

When milk is delivered straight from the cows to the consumers, by reason of the close proximity of the customer, as happens in some urban districts, the disregard for cleanliness displayed in the collection of the fluid is not so acutely felt as it is in large cities, where the milk is at least twelve hours' old, and often many more before reaching the customer. The many explorations by not over-clean hands and persons through which milk passes in transit from the railways to the blenders and distributors do not improve its already contaminated condition. The large dairies which act as middlemen obtain the bulk of the milk supplied to their customers through the agency of farmers and cowkeepers, who contract to deliver their

milk to these companies at a specified rate. Thus the "Wild West Dairy Company" or the 'Milky Way Dairy Company" and such like corporations, on whom the public blindly pin their faith, are in reality large milk depôts into which many farmers dump their dirty milk as contributions to the sum total of lacteal unwholesomeness. The filthy conditions under which the milk is obtained by and supplied to well-advertised milk corporations, who perform the office of distributors, and frequently in not too cleanly a manner, is, or should be, well known to the public-health officials. Such faulty methods of obtaining and distributing an important food supply do not often obviously injuriously affect the adult population in the absence of contamination by pathogenic germs. That is evidenced by the very healthy state of a populous district to which we have already drawn attention, which has the phenomenal death-rate of a trifle over 7 per 1000, which certainly cannot be excelled, and is not equalled by any district of similar population in the United Kingdom. But, although the general death-rate is very low the infant mortality rate is very high, much like that which obtains elsewhere and from the same causes, and this in spite of the excellence of its hygiene.

It is upon the infant population that contaminated milk is productive of the most harm, and the infant mortality rate is mainly a question of dietetics in which a dirty milk supply plays no unimportant part. To reduce this mortality a *pure* milk supply is essential, and to obtain that should be the aim of all municipal authorities. By devoting public funds for the erection of apparatus to sterilize and pasteurize an admittedly contaminated commodity is not the way to deal with the evil. Let these bodies apply their energies to obtaining increased powers to ensure the production of the pure article, which must be delivered to the infant in a pure state. When they have accomplished this much-to-be-desired end they may be looked upon as benefactors to all classes of the community, rich and poor alike.

The instruction of the poor as to the storage of the pure commodity (when that is obtained) is an important link in the chain of successful infant feeding in the lower classes, although not by any means confined to these, as also the question of municipal gratuitous

and rate-aided distribution of milk to the poor and other closely allied matters, but these do not concern us at present. To ensure success, in addition to obtaining increased powers, it will be necessary to safeguard the public interests, as has been advocated by Dr. George Carpenter in a recent address to the sanitary inspectors at Carpenter's Hall, by compelling all persons engaged in the milk trade, whether they be farmers, cowkeepers, middlemen, or retailers, to be *licensed*, and that a breach of the regulations necessary to obtain a pure milk should be met by severe penalties.

Sanitary authorities are at present provided with full powers to deal with abstractions and adulterations, but now they must make *purity* their aim and ideal—frame the necessary regulations, and seek increased powers from Parliament, to be backed by rigid inspections, to ensure the accomplishment of that ideal. Should these regulations force up the price of the commodity, the public must be prepared to ungrudgingly pay the additional cost. We have no doubt from our inquiries that there is a considerable margin of profit to ensure the expense not falling entirely, if at all, upon the public purse. In any event it will represent money well expended on a national asset of no small importance to the Nation, its men and women of the future.

TOBACCO SMOKING BY BOYS.

At last an influential movement has been started to call national attention to the evils of tobacco smoking by children, and a manifesto has been issued bearing the signatures of well-known people in all walks of life.

For remedying crying evils in this country, the stimulus of the "warm approval" of archbishops and dukes, as set forth in the daily press, is necessary to start the machinery of reform in active operation. This prompts us to ask whether it will be necessary to obtain "warm approval" in high places to ensure reform for what is a much greater evil, and that is the lack of interest displayed in the teaching and acquiring of knowledge in all that relates to the diseases of children, a matter of more importance to the nation.

The absence of facilities provided for the embryo family prac-

titioner to make himself acquainted with even the rudiments of this important branch of study, and the ignoring of this patent fact by those whose duty it is to superintend medical education in this country, are matters that require immediate reform.

Tobacco smoking by the young, while an evil, is not so great an evil as several others we could mention in relation to child life, such as that which permits a medical student to become legally qualified to practise medicine and surgery without being trained in or examined upon childish ailments by experts. Those calling in medical aid to their children have a right to insist that their advisers shall have been well grounded in this difficult branch of medicine; yet our medical schools and our numerous examining boards treat the matter with indifference, if not contempt. How long are we to suffer from this state of affairs? Are we to hope that reform will arise in our midst, or is it to be compelled by outside influences, like the tobacco vice?

Studies in child life and well-being, which are taken up to-day in England with a flourish of trumpets, and are deemed at the moment to be burning questions, have in reality been so for quite a long period, and, though a novelty here to the majority, are often a matter of ancient history to the initiated few, and to foreign countries, to wit, France, Germany, the United States, Norway, and elsewhere. Thus our transatlantic cousins, pioneers in all that relates to children's medicine, have for a long time recognised the evils accruing to the rising generation from this most pernicious habit of tobacco smoking amongst the young, especially amongst the English young, for after all it is but a habit, and an unnecessary habit, which is harmful to children, and had better not be practised by their elders. New York boasts of an institution called the Anti-Cigarette League, having branches in other American cities. The League is composed of school-boys, who have banded themselves together to discourage the smoking of cigarettes by precept and by example, but chiefly by the latter. Each boy is granted a badge, which he is expected to wear openly, so that his light may shine before his companions. This League has been productive of immense good in the United States, and we would recommend some such influence as this to the notice of those specially interested in the matter as one worthy of imitation.

But this is not sufficient. Repressive measures are required to

put a stop to a practice which stunts the growth of its devotees, renders our youth a readier prey to disease, and lowers their mental capacity and moral tone. It makes boys tired, stupid, lazy and irritable, and leads them on to lying and stealing.

In America the attempt to discourage cigarette smoking by the young finds expression in laws in a number of States. In Massachussets, Oklahama, Pennsylvania, Tennessee, Vermont, Washington, and West Virginia the selling or giving of cigarettes or cigarette papers to a minor is made a misdemeanour. In Pennsylvania the offence extends to tobacco in any form, in Tennessee to bringing cigarettes into the State, and in Washington it is unlawful for a minor to smoke.

A law passed in Norway in 1889 gives power to local authorities, on the approval of the King, to regulate the tobacco trade and prevent the sale of tobacco to any one under the age of fifteen years. The local authority also has power, through the agency of the police, to prevent the use of tobacco by children under fifteen in the streets or other public places. In Prince Edward Island sale to a minor under sixteen years of tobacco in any form is forbidden. Any minor under that age who has in his possession or smokes tobacco is liable to a fine of five dollars or seven days' imprisonment. Bermuda imposes a small penalty on persons selling tobacco, cigars, or cigarettes to children under sixteen years of age. In France numerous societies have been formed for the suppression of this growing habit, and the French Government have absolutely prohibited the use of tobacco in all their schools.

Cheap cigarettes have much to answer for, and Sir William Harcourt, when Chancellor of the Exchequer, in drawing attention a few years ago to increased revenue from tobacco, said: "I believe it is mainly due to the great increase in the consumption of cigarettes, which are especially attractive to our youthful population." On the authority of a book on tobacco, according to our American contemporary, 'Pediatrics,' it was the custom in England about the middle of the seventeenth century for children going to school to carry in their satchel with their books, a pipe of tobacco, which their mother took care to fill early in the morning, it serving them in place of breakfast. At the accustomed hour every one laid aside his book

to light his pipe, the master smoking with them, and teaching them how to hold their pipes and draw in the tobacco.

From the present condition of affairs it would seem that we are not unlikely to return to our former bad habits in respect to juvenile smoking.

A spectacle which is quite common in our big cities—the scramble by ragged urchins for cigarette and cigar stumps thrown into the dust and dirt by the passer-by, the seizure of the hard-won trophy and its consumption by the victor *coram publico*—is a sorry sight. Apart from the evil of the practice of smoking, it would be of interest to know how often pathogenic germs from the filth accumulation of the streets are introduced into systems of lowered vitality. In Edinburgh, where we happened to be not long since, we were astounded at the audacity of the juvenile smokers. It is a common spectacle to see groups of boys as young as eight years or even less, puffing away at their cigarettes on the tops of the tramcars, regardless of all public decency.

We have seen a boy in a small suburban town, so small that he could not see over the counter without craning his neck, call for his "penny packet of fags," demand a match to light the cigarette which he selected from the bundle, and leave the shop smoking. A protest to the tobacconist elicited the response that if he did not serve the child somebody else would.

This steadily growing habit of smoking pervades all classes of juveniles, from the tiny tot in the gutter to the well-groomed schoolboy resplendent in Eton jacket, immaculate "topper," and a wealth of white linen collar, with this difference, that the former indulges in it openly and the latter in secret.

Not so long ago we were golfing, and on the golf-course one day our caddie, about fourteen years old, was smoking all through the round, and on our asking him how much he spent on cigarettes, sixpence a day was his moderate estimate. On further investigation we found this money was spent on six penny packets of cigarettes, which amounted to sixty cigarettes per day! We did not make a thorough medical investigation, but, from the carelessness of the caddying of this contributor to the national exchequer, we concluded that constitutional effects were manifesting themselves.

Excerpta Puerilia.

Child life in canal boats.—In last months' JOURNAL we had a few brief remarks about "Tramp Children." Mr. Stead's new paper, the 'Daily Paper,' gives a short account of the life of children in canal boats. It is said that there are 40,000 such children in England. At Brentford, apparently, there is a school for such children, but, as might be expected, the teaching is carried on under difficulties. The children are no sooner there than they are off again. However, amongst those attending the school are to be found, it is said, some who in very elementary knowledge are not far behind children of their own age in a board-school. Naturally in some forms of knowledge they are ahead of many of their young brothers and sisters in the towns, their opportunities for observing wild birds and animals being, as might be supposed, exceptional. It would be interesting to follow up the after-lives of some of these canal children. Scanty though their education may be, if that education is judiciously directed to the development of their minds along the line of subjects which come within the field of their observations, and consequently, if they are intelligent, of their comprehension also, there is no reason why some of them should not far outstrip many apparently more highly trained board-school children who are dwellers in back streets of large towns, where the opportunities of acquiring a wide outlook upon many phases of life must be much smaller. As we have heard so often lately, it is not facts but the knowledge of how to use them that makes the strong man. A man may in knowledge be an encyclopædia, but a useless creature for all that. Some men's minds, in fact, seem to be swamped by their facts. For not a few positions in life perhaps we may say, "Give me a man who, when a boy, was in the position of a boy in a canal boat, whose mind is not dulled by the in-cramming of over much knowledge, and is largely left free to cultivate his own intelligence by means of his eyes."

The mental training of children.—In connection with the above remarks it may be interesting to notice some of the views of Mr. G. Hamilton Archibald, who has been giving some interesting lectures on the training of children. The key-note of Mr. Archibald's lectures has been the saying of Frœbel, "Wouldst thou teach the child,

observe him; he will tell thee what to do." All education begins, says Mr. Archibald, not with the lesson, but with the child. In the training of children in schools this must be difficult. It seems almost impossible not to put the greater number of the children more or less through the same mill. The mill may suit some, and they develop into intelligent and capable men or women. Too often, unfortunately, it is otherwise, and many of us must have seen natural intelligence and interest in acquiring knowledge dwarfed and almost killed by school life. But, unsuited though the education at some schools may be for a boy or girl, should the child be much at home, he or she should be encouraged to develop natural healthy tastes. Mr. Archibald says, "A child cannot be taught if he is not allowed to do as he pleases." There can be no doubt that if distasteful knowledge is forced into a child, the child's inbred instincts lead to the disgorgement of that knowledge as soon as possible. On the other hand, that mental food which can be taken with pleasure will be assimilated, and help to build up the strong man or woman of the future. Discouragement of a child's tastes or hobbies tends to develop a listless indifference to everything, and when time for the serious struggle of life should begin some form of excitement—it may be cricket or football,—or some trivial thing like personal attire or trashy literature absorbs almost the whole of the interest in life.

School-girl housekeepers.—The "Daily Chronicle" of January the 16th gives an interesting account of a school recently opened at Harringay, for the instruction of girls between the ages of ten and thirteen in housekeeping.

The girls are taught the correct method of making a bed, changing sheets for an invalid, or turning out the room.

Every day one girl is selected to be housekeeper, one to be marketer, one to be cook, and two to be housemaids, while the remainder of the class do extra housework, such as turning out a room, cleaning windows, pots and pans, etc., or sewing.

The little housekeeper is supposed to provide for a family of four. In the morning she receives a shilling, and with that commissions the marketing girl to buy sufficient to make a nice dinner for four persons. Sometimes, however, she is given two shillings, and has to buy sufficient for two days, so that on the second day she must pay a visit to the safe to see if she can make a satisfactory dinner out of the cold meat, potatoes, and bread she finds there.

Besides the elementary lessons of sweeping so as not to scatter the dust, bedmaking without leaving the mattress unturned, dusting

without leaving dirty finger-marks, and other little things not too well known by the ordinary domestic servant, they learn such things as the management of a sick-room, the cleaning and care of lamps, the principles of ventilation and drainage, the treatment of common ailments, the isolation of infectious diseases, how to measure and cut out garments, how to keep household books, and how to portion out small incomes to the best advantage.

The saying is, "life is made up of little things." Education of this character must do much to remove some causes of domestic unhappiness.

A useful experiment.—Under the above heading a reverend gentleman, a great despiser of doctors and all their ways, has described some of his own doings in a letter to one or two daily newspapers. It may be mentioned that we had previously noticed another letter of his, in which he denounced the iniquity of experiments upon animals. It was therefore with some surprise that a week or two later his letter, proudly announcing to the world the result of an experiment of his own, not upon animals, but upon children, caught our eye. He tells us in this letter that he has been feeding children on "biscuits and oranges." "They eat nine of the former and four of the latter per day; they drink nothing at all; and are the healthiest, happiest, bonniest children of the place." The reverend gentleman no doubt stirs both himself and his uncritical audience when he descants upon the crime of medical research, yet seems sublimely unconscious of the fact that he writes to the papers with the object of stimulating parents and others to indulge in what he himself calls an "experiment." Not a few enthusiastic opponents of science, no doubt, have been stirred to action, and as a consequence we know not how many of those children with whom oranges do not happen to agree have been "laid low" with headaches or dyspepsia. The reverend gentleman carries his opposition to science, in this instance, into contempt for anything that savours of it. When he announces his wonderful experiment that has produced such marvellous results, it is not necessary to tell us of what was the size of the biscuits, of what they were composed, or whether they were sweetened or unsweetened. Neither does he tell us whether the subjects of his experiment were fed one day, two days, three days, or how many days on the nine biscuits and four oranges a day. We naturally also, who are foolishly trained to scientific precision, cannot help feeling we would like to know what number is intended to be meant

by the word "some." "Some school-children" might be two, twenty, or two hundred. Again, we are left to imagine the age and size of these "some" children who were satisfied and flourished upon nine biscuits and four oranges. We know not whether they were three or thirteen, but it is only the foolish medical mind that trifles about such details. That unfortunate wish to know the truth which is inborn in the scientific mind makes us curious as to the condition of the "healthiest, happiest, bonniest children in the place" before the experiment was commenced. To be serious, we can only take the reverend gentleman's statement as it stands as absurd. One detail seems to be especially worthy of comment; that is, the part that the children were allowed to drink nothing. The only fluid they were allowed was that contained in the four oranges. Apparently the reverend gentleman seems imbued with the idea, possessed by some, that water is harmful. It is scarcely necessary to remark that water is the vehicle by means of which our bodies are cleansed of waste products, and not only so: the drinking of too little water may expose the body to the risk of the development of a renal calculus. Years ago, in our student's days, we remember a brilliant physician, now gone, telling us how a young girl who habitually drank too little fluid used to suffer from the passing of small calculi.

The study of children's diseases in Great Britain.—Those who, like ourselves, desire to make of children and their diseases a special study have indeed set themselves a difficult task. This fact, which is obvious enough to those in touch with matters medical, is brought into strong relief by the annual review of the *annus medicus* published in the 'Lancet' for December the 26th, 1903. There we find, extending over nearly forty of our contemporary's liberal pages, a more or less critical review of the principal work done in nearly every department of medicine and surgery. Such legitimate specialities as obstetrics, ophthalmology, public health, forensic medicine, anatomy, and physiology are fully represented, and even such relatively minor subjects as anæsthetics and dentistry are not forgotten. A special article is devoted to exotic and tropical disease. Yet on the important practical subject of children and their diseases not a single word can be found.

Physical degeneration.—Earlier we have drawn attention to a school recently started for training girls in household work. The need of such schools is emphasised by remarks in a letter by Dr. Robert

Jones, sent to the 'Times,' on the subject of physical degeneration. He says that he has in the asylum under treatment many girls from the class of factory girls. "All of these are practically ignorant in regard to household economy. They lightly consider and readily undertake matrimony, but they are absolutely incapable of bringing up children, or of cooking simple food for home consumption, preferring to fall back upon the tinned enormities of local provision stores. Is it too much to surmise that the offspring of such mothers can preserve any factor of resistance to the incidence of disease, or to surmise that they contribute to the maimed, the deformed, and the degenerate in consequence?" Dr. Robert Jones goes on to say that, "domestic service, at present beneath the so-called dignity of most young women, is the only real training which enables them to become good wives and mothers; and it is to-day a languishing industry, its neglect being, in my opinion, to a great extent responsible for the high infant mortality, and for the impairment of physique and the perversion of natural development which, without doubt, is affecting the present generation, owing to the improper rearing of children." The leading article in the 'Times' which comments upon this letter of Dr. Jones and upon other letters refers to the much-talked-of question, the injury done to them by teaching them while they are under fed. It also comments upon the effect of vitiated air upon the physique of growing children, and quotes the experiment of Mr. Charles Paget, M.P., who caused "the children of the village school to be divided into two approximately equal groups, one of which spent the full number of hours in the class-rooms, while the other was sent to work during half those hours in a garden. At the end of the half-year it was found that the garden group, with only half the duration of study, surpassed the others in everything; and a similar result would probably be obtained wherever the same experiment was fairly tried." It is scarcely necessary to remark that we are not to consider fresh air as entirely, nor even mainly responsible for the superiority of the children who spent half their time in the garden. There can be little doubt that the great majority of children, as we have hinted elsewhere, are taught more than they can efficiently grasp. For their minds it were better that they were taught less, and for their bodies that they spent more time in the open air.

A child's pathetic joke.—The Duchess of Sutherland tells the following tale of a cripple's humour in her article on "The Children of the Potteries," in the 'Pall Mall Magazine':—Julia, described by the Duchess as "a little pet" of hers, when in the North

Staffordshire Infirmary, had heard the nurse told to prepare her for the theatre on the following day. She lay in bed thinking of the treat in store, but at a later date remarked to her grace that "Next time she goes to the theatre she hopes all of her'll come out of it again."

Baptismal sugar-plums.—A crusade has been started in France against the throwing of baptismal *dragées*, on the ground that the practice is calculated to spread tuberculosis. The dust- and mud-covered *dragées*, it is thought, convey to the children picking them up the pathogenic germs. Dr. Coulon is of opinion that the Academy of Medicine should interfere, and it has been suggested that the subject should be brought to the notice of mayors, who should interdict the practice. While the consumption of sugar-plums thus dispensed to French children is no doubt a danger, there can be no question that the *baby-comforters* or *soothers* so fashionable here should be banished on similar grounds. The frequent transference of the germs on floors and carpets to the mouths of nurslings and infants by these insanitary vehicles is a constant source of danger to their health and lives. Their sale should either be prohibited, or, failing this, they should be scheduled under the Poisons' Act and labelled "Poisonous."

Compulsory teaching of elementary hygiene in our public elementary schools.—A movement has been started, initiated by a body of well-known and responsible medical men and women in England, Wales, Scotland, and Ireland, which has been constituted into a committee of distribution, whose aim is to endeavour to secure that every child in our national schools shall obtain some instruction in the rudiments of the simpler rules of health and temperance. A letter has been addressed to the registered medical practitioners of England, Wales, Scotland, and Ireland, asking for signatures to the petition which is to be laid before the central education authorities of the United Kingdom. It is hoped thereby to lead all the children to appreciate, at their true value, healthful bodily conditions as regards cleanliness, pure air, food, drink, etc., and the committee of distribution are of opinion that the teaching of elementary hygiene should be *compulsory*. It points out that one of the most prominent subjects with which the various countries have found it necessary to deal is the question of the nature and effect of alcohol. Attention is drawn to the work done in other countries and the Colonies in elementary hygiene, and the petition states that the whole question is dealt with

still more completely in the United States of America. We welcome such an important and too long neglected step, and we are glad to see that medical men other than those who are more immediately interested in children's ailments are waking up to their responsibilities. We hope that all registered medical practitioners will sign this petition. Every patriotic Englishman must feel regret that this country does not take its proper place in the van of progress in all that concerns the welfare of children, and that in this as in other questions relating to children our kinsmen in the United States of America should take such a pronounced lead and that we should be behind our Colonies.

Abstracts from Current Literature.

The value of buttermilk as a food.—Otto Rommel (Archiv f. Kinderheilkunde, Band xxxvii, Hefte 3 and 4) recommends buttermilk as a valuable food in the gastro-intestinal derangements of infancy. It is particularly useful in acute cases, but is also valuable in the more chronic disorders of nutrition. The substance should be prepared in the following manner:—To one litre of cold buttermilk add one or two teaspoonfuls of ground wheat or rice. Heat the mixture gently, and, constantly stirring it, bring it to boiling-point in about a quarter of an hour. Add two or three heaped-up dessertspoonfuls of cane sugar, raise rapidly to boiling-point again, and then allow slowly to cool. Buttermilk in its constitution forms almost the exact antithesis to human milk. Its most striking characteristics are its strongly acid character, its deficiency in fats, the large amount of sugar contained in it, and the freedom of its casein from calcium salts. The large proportion of sugar present raises its caloric value immensely. The casein of buttermilk is in a very finely divided state. Its acidity is due to the large quantity of lactic acid present, which tends to inhibit pathological fermentative processes and preserve the casein from decomposition. At the same time the lactic acid prevents any undesirable coagulative changes later on; under the influence of the ferments of the stomach, and in the presence of the HCl of the gastric juices, it itself functionates as a peptic ferment. On the other hand, these large quantities of lactic acid tend to exercise a disturbing influence

upon the mineral metabolism of the system. This fact disqualifies buttermilk as a permanent article of food. Should its administration extend over a considerable period of time, steps must be taken to increase the fats and reduce the quantity of sugar contained in buttermilk. E. P. Baumann.

Primary tuberculosis of the intestinal tract.—Heller and Wagner ('Münchn. med. Wochenschr.,' 1903, Nos. 47 and 48) believe that the intestinal tract is frequently the primary site of tubercular infection of the system. In 600 post-mortem examinations they found 28 cases of what they consider to be clearly cases of primary intestinal tuberculosis. In fifteen of these the tubercle bacillus could be demonstrated in the mesenteric glands. In the remainder the bacillus was not found, owing to the complete calcareous degeneration of the glands. Of the fifteen cases in which the bacillus was found, the disease was in eight instances confined to the intestines and mesenteric glands; in the remainder the process was not so confined, but had further involved other portions of the body. These cases show that intestinal tuberculosis in many cases remains localised, and goes on to cure without offering any serious injury to the system generally. In others the disease becomes disseminated and produces grave mischief. It is usually difficult to produce exact proofs that fairly advanced tubercular disease of the lungs has originated in a tubercular lesion of the intestinal tract. Such cases, however, the writers found to occur, and they believe that they will become much more frequent once we have accustomed ourselves to the view that primary tubercle of the intestinal tract is a not uncommon pathological lesion. This lesion occurs especially frequently in childhood. Of seventy-six post-mortem examinations upon the bodies of children ranging from one to sixteen years of age, sixteen (or 21·1 per cent.) showed primary tuberculosis of the intestinal tract. In thirteen of these the tubercle bacillus was actually demonstrated. In the remaining three cases bacteriological examination was not successful. E. P. Baumann.

Tuberculosis: transmission of bovine tuberculosis by milk.—Kober ('Amer. Journ. Med. Sci.,' October, 1903, p. 684) has published a very full and valuable paper on this subject, with a good bibliography. In it he tabulates eighty-six cases of transmission, recorded from 1846 up to the present time. In many of these the possibility of transmission in this manner is very striking. In a few such a mode of infection is doubtful, and it must never be forgotten that it is

difficult to exclude other sources of infection. He refers to three cases of local skin infection, reported in 1896, as due to tuberculous milk or cream. In addition he has collected many cases of wound infection produced accidentally in making autopsies on tuberculous cattle, or by experimental inoculation. His general conclusions are that (1) tuberculosis can be transmitted by the milk of tuberculous cows; (2) tuberculous milk is most infective when the udder is diseased; (3) human tuberculosis can be transmitted to cattle; (4) possibly there are two types of the tubercle bacillus.

EDMUND CAUTLEY.

Tuberculosis of the tonsils.—Koplik ('Amer. Journ. Med. Sci.,' November, 1903, p. 816) states that the bulk of cases of tuberculosis of the tonsil occur in children. He reports a case in a boy aged 15 months, apparently primary, and dating distinctly from an exposure to infection—a visit to a grandfather with pulmonary phthisis. The parents were healthy. Both tonsils were involved; one ulcerated. Scrapings yielded large numbers of tubercle bacilli and giant-cells. The cervical glands on both sides were involved. Death ensued later from pulmonary and laryngeal tuberculosis. The affection of the tonsils may be either primary or secondary. The cervical glands are quite commonly involved. Tuberculous ulceration of the tonsil is rare. He regards tuberculous disease of the cervical lymph-glands as due to infection *viâ* the tonsil. The importance of examining the tonsils at autopsies is not sufficiently realised. Apart from microscopical examination, tuberculous disease may be easily overlooked, for, though giant-cells and tubercle bacilli are found, caseous degeneration is rare.

EDMUND CAUTLEY.

The serum-therapy of scarlet fever.—For many years the presence of streptococci in large numbers in cases of scarlet fever has been known to bacteriologists. Some consider the presence of this organism to be secondary to the existence of some unknown poison. Others believe it to be the primary cause of the disease. This view is shared by Moser, who discusses the question in the 'Wiener med. Wochenschr.,' No. 44, 1903. He finds strong presumptive evidence in its favour in the almost constant presence of the organism in the blood and cerebro-spinal fluid, as well as in the nose and pharynx, and in the internal organs of scarlet-fever patients. Very suggestive, too, are the results of agglutination tests showing differences between the reactions of the streptococcus obtained from scarlet-fever cases, and those of the same organism

taken from other diseases in man. Although these facts may not constitute absolute proofs, the writer believes that they are at least sufficiently striking to warrant the employment of serum-therapy. Attempts instituted in this direction by various observers have been unsuccessful. Various explanations are given for this, the chief perhaps being that Marmorek and others passed the organism through animals to increase its virulence; this may have produced some detrimental biological change in the coccus. In order to avoid the possibility of such changes, Moser prepared a serum by treating horses with various strains of scarlet-fever streptococci which had not been previously passed through other animals. The serum is injected under the skin of the anterior abdominal wall in doses of up to 200 cm. Only one injection need be administered in the course of an attack of scarlet fever. The serum has been employed in 186 cases. These were almost all severe attacks, for owing to the fact that only small quantities of the serum have as yet been available, its application had to be strictly limited. It was found that after an injection the temperature in severe cases would often fall to the normal in from four to thirty hours. In other cases a slight increase of the pyrexia would at first occur, to be followed shortly by a fall to normal. So marked a drop was, of course, not always seen in cases of some days' duration, or in cases in which there were complications. The pulse and respiration rate were at the same time diminished. The eruption often fades very quickly after an injection. A striking fact was the rapid subsidence of cerebral symptoms (apathy, delirium, etc), accompanied by an improvement of the appetite and general sense of well-being. Symptoms of gastro-intestinal disturbance were quickly relieved. Naso-pharyngeal affections were influenced in the sense that the far-reaching lesions which are sometimes seen never occurred under this treatment, and any necrotic changes in the mucous membrane showed a strong tendency to heal. Complications and sequelæ occurred much less frequently than is usual. Where nephritis did set in recovery took place uncommonly rapidly.

In connection with the injection of the serum there is a certain amount of pain produced which lasts for some hours, and skin eruptions followed in 73 per cent. of the cases. This is due probably to the large quantities injected. Occasionally there also occurred joint affections, glandular enlargements, œdema, or intestinal derangements, such as diarrhœa. Even the severest of these were, however, transitory, and subsided without producing any permanent damage.

E. P. Baumann.

Pneumothorax.—Boivard ('Archiv. of Pediatrics,' November, 1903, p. 816) gives a table of eighteen cases, including five of his own. The age varied from six months to twelve years. Four recovered, the causes of the pneumothorax in these being trauma, pertussis, pneumonia, pneumonia and pleurisy. Of the fourteen fatal cases, the causes were measles and its complications in four cases, diphtheria and its complications in four, and one each was due to miliary tuberculosis, tuberculosis and emphysema, pertussis, pneumonia, empyema and abscess of the lung. It is most liable to occur in measles, diphtheria, and whooping-cough; the diseases in which there is a liability to bronchitis, broncho-pneumonia, and bronchiectasis.

EDMUND CAUTLEY.

Pulmonary osteo-arthropathy.—C. H. Dunn ('Arch. of Pediatrics,' October, 1903, p. 721) records a case in a boy aged 3 years and 7 months. He had had cough for a year, worse for a month, and for nine months it had been noticed that his finger-tips were getting larger. Physical examination showed extensive consolidation of the whole of the left lung, and a systolic murmur all over the cardiac area, loudest in the second left interspace. No fluid was present in the pleural cavity. The tuberculin test proved negative. X-ray photographs showed enlargement of the distal phalanges of the fingers and toes.

EDMUND CAUTLEY.

Acute primary pyelitis in infants.—Marcell Hartwig ('Berl. klin. Wochenschr.,' 1903, No. 48) records three cases of this rare condition. The clinical picture of the disease resembles that of enteric fever. At the onset there is slight pyrexia, which becomes gradually more marked, until, at the height of the disease, readings of 106° F. may be obtained; the temperature is not controlled by antipyretics. No cause is found for the pyrexia. Widal gives negative results. Physical examination yields no definite results. The condition in its early stages may suggest meningitis, but the progress of the case does not bear out this diagnosis. All methods of investigation are negative until the urine is examined microscopically, when abundant organisms and pus-cells are discovered. No renal casts are found. The urine contains albumen corresponding in amount to the pus present. The author in one of his cases arrived at a correct diagnosis only after a fortnight's observation; in the remaining cases he directed his attention to the urine after a week's observation. The urine in every case was acid. An attempt was made

to investigate the bacteriology of the condition, but owing to the fact that sufficiently fresh urine could not be used a definite organism was not isolated; a large variety was found, the *Bacillus coli communis* being represented in predominating numbers.

In the first case, which came under observation two years ago, the temperature gradually fell to normal in six weeks; a month later an abscess appeared near the angle of the jaw. This was incised and drained, and the child has been well since. Cases 2 and 3 were treated by urotropin and the oil of turpentine. Under this *régime* the urine soon cleared up, and convalescence occurred in three or four weeks.

The writer has no theory to offer in reference to the site of origin of the infection, although he tentatively suggests the possibility of intestinal infection. In view of the subsequent development in Case 1 of an abscess near the angle of the jaw, he believes that here the tonsil may have represented the original point of infection. The writer was unable to find any previous record of cases of acute primary pyelitis in infants, although instances have been described at which there was found at autopsies a condition of pyelitis. In these cases the condition was generally secondary to vulvo-vaginitis, pyæmia, etc. E. P. Baumann.

Achondroplasia (chondrodystrophia fœtalis).—J. Cooke ('Amer. Journ. of Obstet.,' September, 1903, p. 358) has recorded a case of this rare disease, sometimes wrongly called fœtal rickets. The child, a boy, was born at seven months, and lived for about half an hour. Nothing abnormal was noted about the confinement, except a great deficiency of amniotic fluid. He was the first child of perfectly healthy parents in a good class of life, the father aged 36, the mother aged 28. As usual, the disease was most marked in the lower limbs. The head was large, the cranial bones soft, the tongue normal. The ribs were very soft, body large, abdomen distended. The arms were of normal length, but the bones were very soft. The nates were quite undeveloped, anus absent, pelvis small. The legs were about half the normal length, the joints large and partially ankylosed. The skin was thick and thrown into folds.

West and Piper ('Arch. of Pediatrics,' October, 1903, p. 730) have also published a case under the name of chondrodystrophy fœtalis. The child, a girl aged 14 months, was the youngest of three children, all females. The father, aged 40, was tall and slender; the mother, aged 25, a little below medium height. The first child had died at six months. Nothing was noted abnormal in the confinement. The

child was fat at birth, and its hands and fingers were noted to be short and thick. The tongue was normal. The head suggested rickets, but the body suggested cretinism. The bones of the limbs were short but not curved. Skin was redundant. There was no improvement under treatment. EDMUND CAUTLEY.

Congenital dislocation of the hip.—Gwylim G. Davis ('Amer. Journ. Med. Sci.,' October, 1903, p. 608) records four cases, and discusses the statistics and results given by various surgeons. As regards the bloodless method, he states that total failures before the age of six to eight years are rare. About half can be replaced in a more or less normal acetabulum and kept there. A small proportion of these are apparently quite normal. The exact power possessed by the patient to form a new joint is a matter of doubt. Many partial repositions can be improved by subsequent osteotomy. To speak of a cure soon after reposition is ridiculous. EDMUND CAUTLEY.

Congenital hypertrophic stenosis of the pylorus.—J. Park West ('Archiv. of Pediatrics,' October, 1903, p. 750) describes a fatal case under the title of congenital gastric spasm. He holds a view, different from most writers on the subject, that there are two kinds of case: (1) a general hyperplasia of all the tissues forming the pylorus; (2) a hypertrophy of the circular muscular fibres only, with stenosis due to spasm of these hypertrophied muscle-fibres. To this latter group he limits the name of congenital gastric spasm. He cannot differentiate his two groups on symptomatic grounds, but states that a few cases of spasm have been relieved by treatment. He very wisely recommends surgical measures for all cases. His own case was typical in its course, symptoms, and post-mortem appearances. No operation was performed. The babe, a male, commenced retching on the first day of birth, vomiting on the third day, and died on the thirty-second day. Except for an attack of diarrhœa on the third day, constipation was marked. Gastric peristalsis was slight. The pylorus could be felt.

EDMUND CAUTLEY.

Pemphigus neonatorum.—Dr. A. Pasini ('Gior. ital delle malat. vener. e delle pelle,' vol. xliv, 1903, pp. 226 and 273) describes an epidemic occurring at the Foundling Hospital in Parma. Examination of the blood showed diminution of red globules, numerous microcytes and poikilocytes, and the presence of nucleated red cells in the

third and fourth week, which preceded the death of the patient. Polynuclear leucocytes were first increased, and subsequently the mononuclear in the proportion of 52·4 per cent. Observations with regard to eosinophilia were negative, and there was an increase in the rapidity of blood coagulation. Cultures from bullous contents showed an unencapsuled diplococcus, having special cultural characteristics, stained by aniline and by Gram's method, and identical with the diplococcus found by Demme, Claessen, and Beck. Inoculation into animals gave negative results. The epidermis under the bullæ showed no change, and the dermis was the seat of a simple vascular congestion with emigration of leucocytes, but no inflammatory alteration. In fatal cases the organs presented signs of progressive parenchymatous degeneration. The mode of introduction of the infection is through the skin, a prodromal bulla being produced locally prior to the general bullous eruption and constitutional symptoms. The author groups the malady with infective fevers like variola and varicella rather than with the pemphigus group of dermatitis. Adults are rarely infected, and always from contagion from children, the proportion being 98·2 per cent. to 1·8 per cent. It attacks with greatest frequency towards the end of the first week of life, and thence diminishes in frequency in inverse proportion to increase of age. Epidemics have almost always occurred in institutions, or in the practice of the same midwife. The affection is quite distinct from so-called syphilitic pemphigus, and is caused by the described diplococcus, in spite of the failure of experimental inoculation into animals, which is either due to immunity of animals towards the diplococcus or to spontaneous attenuation of the diplococcus in artificially produced cultures. T. V. Dickinson.

Correspondence.

VISCERAL CRISES IN HENOCH'S PURPURA.

To the Editor of The British Journal of Children's Diseases.

Sir,—The interesting articles upon cases of Henoch's purpura and the valuable editorial upon the "visceral crises" of this disease which have appeared in the first number of 'The British Journal of Children's Diseases' have suggested that the following note upon a case met with in the post-mortem room of the Bristol Royal Infirmary may not be out of place.

In November, 1899, a boy aged 3 years and 11 months was admitted

into the Bristol Royal Infirmary suffering from severe abdominal pain and vomiting. The possibility of intussusception was considered. The abdomen was distended, but not tense, and nothing suggestive of such disease could be detected on palpation. The vomiting and pain, however, continued, and two days later he was examined under chloroform, but without anything that threw light upon the case being discovered. The acute attacks soon after subsided, and after remaining in the institution for about three weeks, he left apparently quite well. Five weeks, however, after the onset of the first attack the pain and vomiting returned, and he was re-admitted to the Bristol Royal Infirmary on the day following the recurrence of the symptoms. The pain from which the boy was suffering at that time, according to the clinical notes, appeared to be "severe." The abdomen was not distended, but was "extremely tender" on pressure. The vomiting continued and the bowels were constipated. Enemata brought away small quantities of hard fæces, which were of normal colour. The pain did not abate, and the boy became collapsed; the attack ending in death three days from the time of onset of the second attack. At the post-mortem examination nothing abnormal was found in any of the organs except the intestines. The mucous membrane of the whole length of the small intestine, of the cæcum, and of the ascending colon were intensely engorged with blood, and the intestinal wall was about three times its normal thickness, owing to hæmorrhage into its coats. There was, however, no ulceration or abrasion of the mucous membrane of any kind. The hæmorrhagic condition commenced abruptly at the junction of the jejunum with the duodenum, and ended with equal abruptness at the splenic flexure of the colon. The upper part of the small intestine contained a considerable quantity of blood in clots, and in the ileum and ascending colon blood was present in a more fluid state. The fæces present in the large intestine were of comparatively pale colour, and presented no admixture of blood. The bleeding into the lumen of the intestine must therefore have occurred not very long before death. Careful examination was made for thrombosis or embolism of the mesenteric vessels, but neither of these conditions was found. The mesenteric glands were enlarged, but not reddened. Cultures from these glands and from the spleen were taken. The bacillus coli was present in the cultures from both situations.

No cutaneous purpuric spots appear to have been noticed during life at the time of either the first or second attack, and none were seen on the body after death. For a time the case puzzled me. Although I have met with three or four cases of Henoch's purpura, it did not occur to me to connect this case with that disease. More recently, however, it has seemed to me that the only explanation of the case is that it was an example of Henoch's purpura without hæmorrhages into the skin. In other words, it was a case, resembling one period of the first of Dr. Sutherland's cases, in which there was no other evidence of liability to hæmorrhage, which occurs in the disease known as Henoch's purpura, except the hæmorrhage into the walls of the intestines. Curiously enough, however, when the boy was first admitted, although abdominal pain had been severe, there was no evidence of hæmorrhage into the intestinal canal. During the second attack also, so far as one could judge from the pale colour of the fæces in the large intestine at the time of the post-mortem examination, the hæmorrhage, at least into the lumen of the intestine, cannot have occurred very long before death. This seems to suggest that the abdominal pain, although generally associated with intestinal hæmorrhages, is not necessarily dependent upon those hæmorrhages, since it may

apparently occur before the hæmorrhages take place. It is, of course, possible to imagine that blood may be poured into the walls of the intestines without any escaping through the mucous membrane. While, however, such a possibility cannot be denied, the amount of blood present in the intestinal canal of the above case at the time of death was very considerable, and must have passed into the lumen at the same time that at least the greater part of the blood was extravasated into the coats of the intestines.

I am, Sir, yours truly,

THEODORE FISHER.

Clifton, Bristol, December the 26th, 1903.

Preparations.

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